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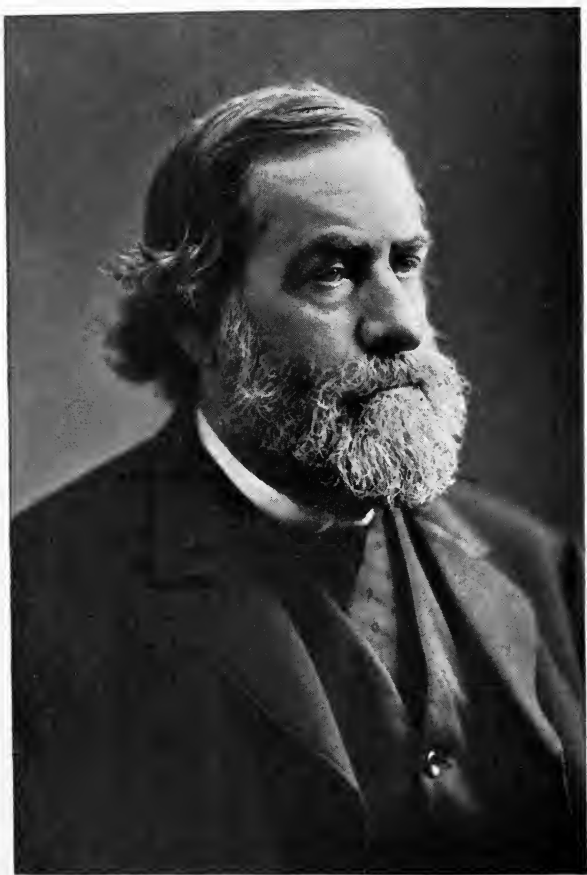
JOSEPH LEIDY, M. D., LL. D.

By PERSIFOR FRAZER, Philadelphia.

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Joseph Leidy

THE AMERICAN GEOLOGIST.
Vol. IX, Plate I.

[*From The American Geologist, January, 1892.*]

JOSEPH LEIDY, M. D., LL.D.

By PERSIFOR FRAZER, Philadelphia.

There is no more striking difference between the past and present generations of scientific men than the universality of the knowledge of the greatest men of the past and the absence of any pretension to it in our present representatives. It could not be otherwise. In classic times as well as in the middle ages the distinction between words and things was not always clearly made. The same class of mind which would successfully grapple with the paradoxes of the schoolmen was equally serviceable in speculations on the philosopher's stone, the existence of phlogiston, or the interpretation of a Greek text. Words were all important, the methods of logic were conventional, and no extraordinary memory was required to master at least in outline all that man had attained; while the discussion of this knowledge could always be turned into the channel of the then philosophy, after which the battle was entirely with words and a skillful word-fencer could never be silenced however little progress he made in convincing his opponent.

With the closing half of the last century, however, methods were improved, the number of facts increased in geometrical progression with the years, and out of chaos and clamor, orderly classification and definite shapes were evolved, each one requiring a different interpretation, claiming different classes of men, and requiring different instruments of precision. As the paths of research diverged it became more and more difficult for any one man to understand all the regions through which they passed, and one by one the philosophers became specialists. In the early part of this century the enormous development of natural and ex-

perimental science caused the strain ever to increase on those who would keep abreast of all departments of research, but still there remained the Humboldts, the Herschels, the Faradays, the Regnaults, and in this country the Baches, the Leconte's, the Leidy's and some others. Joseph Leidy was almost the sole survivor of that class of intellectual giants which seemed to be able to assimilate as much as Science in her many forms could produce. Such a race could not exist forever and it has passed away with him. After him there are only specialists in one or more subjects, and generalizers who seldom come nearer to the truths of nature than their description in a book.

The father of Joseph Leidy, Philip, was born in Montgomery county (one of those adjacent to the county which is the city of Philadelphia), December 5th, 1791 and moving in his youth to Philadelphia successfully pursued the business of a hatter.

By Catherine Melick he had four children of whom the subject of this sketch was next to the youngest. Through the death of his mother and the marriage of her sister by his father during his early infancy, Joseph only knew this kind stepmother who was as watchful of him as his real mother could have been. He was educated at private schools and early evinced interest in natural objects and exhibited that talent for drawing of which he made such admirable use to the last period of his life. An accidental opportunity to visit a drug shop, was taken advantage of by him to perfect himself in pharmacy in a very short time, while the dissection of some domestic animals turned his attention to a study which he was destined to link closely with his name. He began the study of medicine in 1842, in the University of Pennsylvania at 19, and in 1844, received the degree of M. D., and in 1845 was appointed Professor to the chair of Anatomy, under Prof. Horner. In 1848 he went to England, France and Germany with Dr. Horner, and again in 1850 with Dr. George B. Wood.

He had been elected a member of the Boston Society of Natural History, and the Academy of Natural Sciences in Philadelphia in 1845, and of the American Philosophical Society in 1849. In 1852 he was appointed in Dr. Horner's place professor of anatomy having been elected to the College of Physicians the year previous. On the outbreak of the civil war he was appointed surgeon of the Satterlee hospital in Philadelphia. In 1864 he married Anna Harden. During the succeeding years, thickly strewn with contributions to science of the highest value, he re-

ceived many honors from American and European scientific societies. The long list of them will be found in the careful and admirable memoir of Dr. H. C. Chapman in the Proceedings of the Academy of Natural Sciences for June 30, 1891, to which I am indebted for the statistical information as to his early life given above.

Among these honors, however, his unanimous and enthusiastic election as President of the Academy of Natural Sciences in 1881; his installation as Director of the Biological department of the University of Pennsylvania in 1884; his election as President of the Wagner Free Institute of Science; and the degree of LL. D., which he received from Harvard in 1886; the gift of the Walker prize of \$500 from the Boston Society of Natural History raised to \$1,000 as a special recognition of his great services to science; the prize of the Royal Microscopical Society in 1879; the Lyell medal by the Royal Geological Society in 1884; and the Cuvier medal from the Academy of Sciences in Paris in 1888 should not be forgotten.

Dr. Leidy was elected a member of the National Academy of Science in 1884.

The bare enumeration of his published works extensive in length and in variety though it be, would give those who had never seen this great naturalist no idea of the man or of the source of this combination of versatility and accuracy which rendered almost every observation he made directly or indirectly an addition to science. In all that pertained to the acquisition of facts and to coördinating them afterwards he made of himself a perfect machine in so far as he was insensible to and unaffected by the ordinary passions of ambition or rivalry which influence even the best scientists. He had a marvellous eye for noting the minutest phenomena and appreciating the most insensible differences; he had an unusually retentive memory for recording and keeping in order the vast fund of his observations and the records of those made by others; and he was conscious of the limitations of pure inductive philosophy to an extent which made the conclusions reached by him safe. It is usually said that he never made an enemy. This seems to be too much to say, for enemies are made by the very fact of superiority, and no doubt this great man had them, but if so they were prudent enough to refrain from declaring themselves. He would never quarrel, and his desire for peace at all hazards would have subjected a less earnest

and pure minded man to the charge of lack of tenacity, but those whose cause he refused to espouse although he thought it just, gave him credit for a higher motive for his action. As an instance of the extreme delicacy of his vision, by a single glance through a glass case in one of the great University museums of this country he detected as imitations a number of specimens of so-called quartz which had been purchased, examined, and mounted by the professor of mineralogy as genuine. When these specimens were removed from the case and carefully tested it was found that those and only those which he had indicated were artificial.

He has told us of the prosecution of his study of Rhizopods when he expected an Amœba-like mass to break into two, or an enveloped diatom to be extruded, and the patience and endurance required to keep the eye at the instrument for hours waiting for a change that would occupy but a few seconds. He would wait and would see the phenomenon while a student with much more time at his disposal would have grown tired and missed it.

In the Brazilian department of the Centennial Exposition were many valuable tourmalines, diamonds, topazes and beryls together with a large amount of nearly worthless material. This was put into the hands of the writer for determination and arrangement. He well remembers the glance of Dr. Leidy at a large mass labeled beryl and his suggestion that it be more closely examined to determine if it were not a white topaz. The size of the specimen as well as its color had deceived the American geologist who had shipped it from Brazil, and the writer. But subsequent investigation proved it to be in fact a white topaz and the largest then known.

Dr. Leidy was a rare example of a simplicity of character which neither adulation nor adversity could tarnish.

In his very early life a less sincerely devoted student of science would have had his head turned by his rapid promotion, by the unusual confidence and liking of his superiors, and most of all by the extraordinarily flattering attention of the social world, but he was not spoiled. He probably noted his sensations on those occasions as so many psychological experiences.

Scientific men in all countries, very generally despise conventionalisms of dress, conversation, and carriage and there is a certain external resemblance between them all. Dr. Leidy was one of the best American representatives of the scientific class in all these respects. A splendid head with kind expression, set upon broad stooping shoulders, a deep chest to which an arm generally pressed

books or papers while the other hung free at the side; a straight toed walk with a sailor's swing from one side to the other at each of his long and easy strides; these things made him noticeable anywhere. People who knew him but slightly would go out of their way to wish him good morning, and would feel a touch of satisfaction at receiving his always hearty response. There is a beautiful conservatory in Philadelphia, on Chestnut street, near Twelfth, where he often stopped to admire the exquisite flowers which the generous owners expose to the delectation of their fellow citizens. The lucky acquaintance who joined him at such times was treated to an exposition of the peculiarities and beauties of the various flowers which ran as smoothly and unconsciously from him as if he were simply discussing the weather, but which opened new vistas of admiration, both of him and of the works of nature in his listener.

For years he was accustomed to pass a part of every Sunday in the mineral cabinet of the late Richard L. Vaux and after Mr. Vaux's death in that of Mr. Clarence Bement. Many were the unsound determinations set right and many the fruitful discussions over minerals and everything else.

Like the true naturalist that he was, he bequeathed his body to his colleagues in the interest of anthropometric science, his friends and pupils Dr. Harrison Allen and Dr. Francis X. Dercum having extracted, weighed, measured and preserved that wonderful brain. His remains were cremated, and thus passed from earthly form one of the loveliest, wisest, and gentlest of men. May his example be of service to us all. *

NOTE:—Since writing the above I am indebted to the nephew of the subject of this sketch, himself an eminent physician, for the following additional facts:

* * "The weight of the brain was $45\frac{1}{2}$ oz., somewhat smaller than normal, and the appearance of the surface presented an unusual increase in the convolutions. No microscopic examination has as yet been made. The points of pathological interest were the presence of a hemorrhagic pachymeningitis on the right side and an unusual hardness of the blood vessels at the base due chiefly to atheroma. By a singular coincidence the brain of my father (Dr. Philip Leidy who died within a few hours of his brother, P. F.) weighed exactly the same to a grain and presented very much the same microscopical appearance, showing a decided family trait. They both suffered from aneurism, Dr. Joseph Leidy of the aorta and Dr. Philip Leidy of the heart. In all my experience, which has been large, at the post mortem table, I never saw the blood vessels at the base of the brain so large and hard. They were typical pipe stems."

In a subsequent note, he adds: "Dr. Harrison Allen assisted by Dr. Dercum, as representatives of the anthropomorphic society, performed the autopsies in both cases. Drs. Wm. Hunt, J. J. Levick, John Packard and Joseph Leidy, Jr. (the writer P. F.) were present. * * Both bodies were cremated in the Germantown crematory."

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